which has been added to the claim is underlined, and text which has been deleted from the claims is ~~struck-through~~. The Applicants have also enclosed a "**Clean Copy of Claims, as Amended**," in which all claims that would be pending after entry of a formal counterpart of this Draft Amendment are listed in an order which the Applicants believe is appropriate for issue.

Applicants thank the Examiner for the withdrawal of objections and rejections, as described on page 2 of the present Office Action. Claims 8-10, 24-26, 28-30, 33-36, and 38-47 are pending following entry of this Amendment. Claims 8 and 30 have been amended. The amendments made herein do not include new matter.

Please amend claims 8 and 30 to read as follows.

8. (Amended) An isolated polypeptide that exhibits a TANGO 294 activity and is selected from the group consisting of:

a) a fragment of a polypeptide which has an amino acid sequence comprising any one of SEQ ID NOs: 47, 49, and the amino acid encoded by clone EpT294, which was deposited as ATCC® Accession Number 207220, wherein the fragment comprises at least 40 contiguous amino acid residues of either SEQ ID NO: 47 or the amino acid sequence encoded by clone EpT294;

C1 b) a variant of a polypeptide that has an amino acid sequence comprising any one of SEQ ID NOs: 47, 49 and the amino acid sequence encoded by clone EpT294, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule having the nucleotide sequence of any one of SEQ ID NOs: 45, 46, and clone EpT294, or a complement thereof, under stringent conditions over the length of said nucleic acid molecule, wherein the stringent conditions comprise hybridization in 6× sodium chloride/sodium citrate (SSC) at 45°C, followed by washing in 0.2× SSC comprising 0.1% SDS at 65°C ; and

c) a polypeptide which is encoded by a nucleotide sequence having a portion which is at least 90% identical to any one of SEQ ID NOs: 45, 46, and the nucleotide sequence of clone EpT294.

30. (Amended) The isolated polypeptide of claim 8,

wherein the isolated polypeptide is a variant of a polypeptide that has an amino acid sequence comprising any one of SEQ ID NOs: 47, 49, and the amino acid sequence encoded by clone EpT294, and

wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule having the nucleotide sequence of any one of SEQ ID NOs: 45, 46, and clone EpT294, or a complement thereof, under stringent conditions over the length of said nucleic acid molecule, wherein the stringent conditions comprise hybridization in 6× sodium chloride/sodium citrate (SSC) at 45°C, followed by washing in 0.2× SSC comprising 0.1% SDS at 65°C.

C 2

Rejection of Claims 8-10, 24-26, 28-30, 33-36, 38-41, and 47
Pursuant to 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 8-10, 24-26, 28-30, 33-36, 38-41, and 47 pursuant to the second paragraph of 35 U.S.C. § 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, claim 8 is, in the Examiner's words, "indefinite for the recitation of 'a TANGO294 activity,'" and the remaining claims are rejected for depending therefrom.

The Applicants respectfully traverse the rejection. One clear example of a definition provided for "a TANGO 294 activity," can be found in the logical combination of the two paragraphs beginning on page 5, line 23 of the present specification (*which describes activities (e.g., biological and functional activities) in general, as they pertain to the multiple proteins described in the specification*) with the paragraph at page 8, line 23 (*which describes a variety of TANGO 294 activities specifically*). A person of ordinary skill in the art could very easily determine, with even a cursory reading of the present specification, what is meant by "a TANGO 294 activity" in the present claims.

The Applicants respectfully request that the Examiner reconsider and withdraw the indefiniteness rejection of claims 8-10, 24-26, 28-30, 33-36, 38-41, and 47.

Rejection of Claims 8, 24-26, 29, 42, 43, and 45 Pursuant t

35 U.S.C. § 112, First Paragraph

The Examiner rejected claims 8, 24-26, 29, 42, 43, and 45 pursuant to the first paragraph of 35 U.S.C. § 112, for not enabling a person of skill in the art to **make** the invention commensurate in scope with the rejected claim. Applicants respectfully submit that the Examiner withdrew the §112, paragraph one enablement-type rejection with regard to claim 8 on page 2 of the present Action.

In the present Office Action, The Examiner concedes that the specification is enabling for an isolated polypeptide having SEQ ID NO:47 or 49, or a functional variant thereof, but asserts that the specification does not reasonably provide enablement for claims to small fragments thereof or variants of the fragments. Applicants respectfully traverse the rejection.

Applicants draw the Examiner's attention to the Office Action mailed on 5/20/02 (Paper # 9) in U.S. serial number 09/333,159, which is a related application (the subject matter of which is TANGO 294 nucleic acids) examined by the present Examiner. On page 3, paragraph 3 of that action, the Examiner states, in a §112, paragraph 1 enablement-type rejection:

> While the Examiner notes that TANGO 294 is a lipase, and agrees that generating the functional variants or fragments is routine in the art, the issue is that the claims [...] do not have the functional limitations for the claimed variants (% variants and hybridization variants) and fragments... (emphasis provided)

Thus the Examiner recognizes that TANGO 294 is a lipase, that generating functional variants or fragments is routine in the art, and that the only issue remaining is that absence of functional limitation for the claimed variants and fragments (*and that such absence results in claims that include both functional and non-functional variants and fragments*). Applicants submit that a critical difference between the presently examined claims and those examined in the related case 09/333,159, as of the date of the 5/20/02 Office Action, is that the present claims all possess a functional limitation (e.g., "exhibits a TANGO 294 activity," Therefore, the scope of the present claims does not include *non-functional* variants and fragments, and the specification indeed enables one of ordinary skill in the art to make the invention commensurate with the scope of the claims..

The Examiner states at the bottom of page 3 of the present Action, "Further, as the TANGO294 is an enzyme, the art generally does not acknowledge that a small portion of a large enzyme molecule, for example, 40 amino acid residues in size, would possess enzymatic activity." Applicants respectfully submit that this is not always the case. In fact, TANGO 294, as described in at least TABLE X (page 73) of the present specification, contains a Lipase serine active site from residues 180-189 (of SEQ ID NO:47).

Persons of ordinary skill in the art can easily determine which fragments and variants, regardless of their size, possess a TANGO 294 (e.g., a lipase activity), and are therefore within the scope of the present claims. For instance, the Applicants list in an earlier Office Action response (mailed on 7/15/02, in response to Office Action mailed 2/13/02 (Paper No. 10)), on page 10, full paragraph 2, abstracts in which various lipase activity assays are described. Applicants reiterate, "The skilled artisan would have no difficulty performing one of these routine assays in order to determine whether a selected polypeptide exhibits the relevant activity." By the same token, the skilled artisan would have no difficulty- by using one of the said assays, for instance- determining whether a TANGO 294 fragment or variant *did not* possess a TANGO 294 activity, and therefore was outside the reach of the presently rejected claims.

Regarding the further rejection of claim 8 under §112, paragraph one (page 5 of the Office Action), Applicants submit herewith a deposit statement, as requested by the Examiner.

The Applicants respectfully request that the Examiner reconsider and withdraw the enablement rejection of claims 8, 24-26, 29, 42, 43, and 45.

Rejection of Claims 28, 47, 33, 38, and 46 Pursuant to 35 U.S.C. § 112, First Paragraph

The Examiner rejected claims 28, 47, 33, 38, and 46 pursuant to the first paragraph of 35 U.S.C. § 112, for not enabling a person of skill in the art to use the invention commensurate in scope with the rejected claim. Applicants respectfully submit that the Examiner withdrew the §112, paragraph one enablement-type rejection with regard to claims 33 and 46 on page 2 of the present Action.

In the present Office Action, the Examiner states:

However, while the specification teaches that the claimed polypeptide is a lipase, there is no written description of such activity in the specification, and the specification provides neither the guidance nor working examples to demonstrate the claimed activities of the protein. A lipase, according to the prior art, possesses lipolytic activity, and is not known for its activity on absorption or transport of a lipid. Therefore, it is not predictable that the claimed lipase is directly involved in absorption or transport of lipid. IN the absence of the evidence to support such, undue experimentation is required for a skilled artisan to determine the lipid absorption or transport activity of the protein prior to using the claimed invention.

Applicants respectfully disagree that "a lipase [...] is not known for its activity on absorption or transport of a lipid." Section 5.3.1 of Gurr, M.I., et al. (1991) *Lipid Biochemistry, Fourth Edition*, which was readily available at the time of filing of the present application, has the following header: "**Digestion. Before dietary fats can be taken up and used by the body, they must first be broken down into their component parts by a variety of digestive enzymes.**" [*A copy of this passage is provided.*] This heading, and the following passage, is just one of many instances in which a nexus between the catalytic breakdown of lipids (e.g., by lipases) and the absorption of lipids is described. The "taking up" by the body of lipids and their components is known as, among other things, as "absorption" or "assimilation." [The terms are used interchangeably in a number of places, including at pages 4 and 58 of Merriam-Webster's Medical Desk Dictionary (1st ed. 1996)(*copy provided*).]

Thus, a mere performing of the lipase activity assays, described herein and in previous Office Action responses, by a person of ordinary skill in the art *without resorting to undue experimentation,* would reveal whether or not the TANGO 294 proteins (or variants or fragments thereof) of the invention are involved in absorption or transport of a lipid. In other words, determining lipase activity of the TANGO 294 proteins (or variants or fragments thereof) of the invention is tantamount to determining the absorption or transport activity of the same.

The Applicants respectfully request that the Examiner reconsider and withdraw the enablement rejection of claims 28, 47, 33, 38, and 46.

Rejection of Claims 8, 10, 28, 30, 33, 34, and 47 Pursuant to 35 U.S.C. §§ 102 and 103

The Examiner has rejected claims 8, 10, 28, 30, 33, 34, and 47 under 35 U.S.C. §§ 102 and 103, in view of the Blanchard reference, the Anderson reference, or a combination thereof, on the grounds that the present claims read on the sequences disclosed in the same because of the hybridization language. Applicant has amended claims 8 and 30 to include the language "over the length of said nucleic acid molecule," thereby obviating the rejection with respect to those claims and any depending therefrom.

Summary

The Applicants respectfully contend that each of claims 8-10, 24-26, 28-30, 33-36, and 38-47 is in condition for allowance. Reconsideration and allowance of all of these claims are respectfully requested at the earliest possible time. Entry of the remarks made herein is respectfully requested.

Respectfully submitted,

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8. An isolated polypeptide that exhibits a TANGO 294 activity and is selected from the group consisting of:

a) a fragment of a polypeptide which has an amino acid sequence comprising any one of SEQ ID NOs: 47, 49, and the amino acid encoded by clone EpT294, which was deposited as ATCC® Accession Number 207220, wherein the fragment comprises at least 40 contiguous amino acid residues of either SEQ ID NO: 47 or the amino acid sequence encoded by clone EpT294;

b) a variant of a polypeptide that has an amino acid sequence comprising any one of SEQ ID NOs: 47, 49 and the amino acid sequence encoded by clone EpT294, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule having the nucleotide sequence of any one of SEQ ID NOs: 45, 46, and clone EpT294, or a complement thereof, under stringent conditions over the length of said nucleic acid molecule, wherein the stringent conditions comprise hybridization in 6× sodium chloride/sodium citrate (SSC) at 45°C, followed by washing in 0.2× SSC comprising 0.1% SDS at 65°C ; and

c) a polypeptide which is encoded by a nucleotide sequence having a portion which is at least 90% identical to any one of SEQ ID NOs: 45, 46, and the nucleotide sequence of clone EpT294.

28. The isolated polypeptide of claim 8, wherein the TANGO 294 activity is selected from the group consisting of:

i) ability to modulate absorption of a lipid:

ii) ability to modulate metabolism of a lipid;

iii) ability to modulate transport of a lipid; and

iv) lipase activity.

47. The isolated polypeptide of claim 28, wherein the TANGO 294 activity is lipase activity.

9. The isolated polypeptide of claim 8, having the amino acid sequence of any one of SEQ ID NOs: 47, 49, and the amino acid sequence encoded by clone EpT294.

40. The isolated polypeptide of claim 9, having the amino acid sequence of SEQ ID NO: 47.

41. The isolated polypeptide of claim 9, having the amino acid sequence of SEQ ID NO: 49.

10. The isolated polypeptide of claim 8, wherein the amino acid sequence of the polypeptide further comprises heterologous amino acid residues.

24. The isolated polypeptide of claim 8,

wherein the isolated polypeptide is a fragment of a polypeptide which has an amino acid sequence comprising any one of SEQ ID NOs: 47, 49, and the amino acid sequence encoded by clone EpT294, and

wherein the sequence of the fragment comprises at least 40 contiguous amino acid residues of SEQ ID NO: 47.

25. The isolated polypeptide of claim 24, wherein the sequence of the fragment comprises at least 75 contiguous amino acid residues of SEQ ID NO: 47.

26. The isolated polypeptide of claim 24, wherein the sequence of the fragment comprises at least 150 contiguous amino acid residues of SEQ ID NO: 47.

29. The isolated polypeptide of claim 24, admixed with a pharmaceutically acceptable carrier.

30. The isolated polypeptide of claim 8,

wherein the isolated polypeptide is a variant of a polypeptide that has an amino acid sequence comprising any one of SEQ ID NOs: 47, 49, and the amino acid sequence encoded by clone EpT294, and

wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule having the nucleotide sequence of any one of SEQ ID NOs: 45, 46, and clone EpT294, or a complement thereof, under stringent conditions over the length of said nucleic acid molecule, wherein the stringent conditions comprise hybridization in 6× sodium chloride/sodium citrate (SSC) at 45°C, followed by washing in 0.2× SSC comprising 0.1% SDS at 65°C.

33. The isolated polypeptide of claim 30, wherein the isolated polypeptide exhibits a property selected from the group consisting of:

i) ability to modulate absorption of a lipid:

ii) ability to modulate metabolism of a lipid; and

iii) ability to modulate transport of a lipid.

34. The isolated polypeptide of claim 30, admixed with a pharmaceutically acceptable carrier.

35. The isolated polypeptide of claim 8, wherein the isolated polypeptide is encoded by a nucleotide sequence having a portion which is at least 90% identical to any one of SEQ ID NOs: 45, 46, and the nucleotide sequence of clone EpT294.

36. The isolated polypeptide of claim 35, wherein the portion is at least 95% identical to SEQ ID NO: 46.

38. The isolated polypeptide of claim 35, wherein the isolated polypeptide exhibits a property selected from the group consisting of:

i) ability to modulate absorption of a lipid:

ii) ability to modulate metabolism of a lipid; and

iii) ability to modulate transport of a lipid.

39. The isolated polypeptide of claim 35, admixed with a pharmaceutically acceptable carrier.

42. An isolated polypeptide that exhibits lipase activity, wherein the amino acid sequence of the isolated polypeptide comprises a portion that is at least 90% identical to 150 contiguous amino acid residues of SEQ ID NO: 47.

43. The isolated polypeptide of claim 42, wherein the portion is at least 95% identical to 200 contiguous amino acid residues of SEQ ID NO: 49.

44. The isolated polypeptide of claim 42, wherein the amino acid sequence of the isolated polypeptide is at least 90% identical to any one of SEQ ID NO: 47, residues 15-423 of SEQ ID NO: 47, and SEQ ID NO: 49.

45. The isolated polypeptide of claim 42, admixed with a pharmaceutically acceptable carrier.

46. An isolated polypeptide that exhibits a property selected from the group consisting of:

i) ability to modulate absorption of a lipid:

ii) ability to modulate metabolism of a lipid; and

iii) ability to modulate transport of a lipid,

wherein the amino acid sequence of the isolated polypeptide comprises a portion that is at least 90% identical to 150 contiguous amino acid residues of SEQ ID NO: 47.